

City of Campbell Signal Timing Project

City of Campbell | City of San Jose | Metropolitan Transportation Commission

PROJECT OVERVIEW

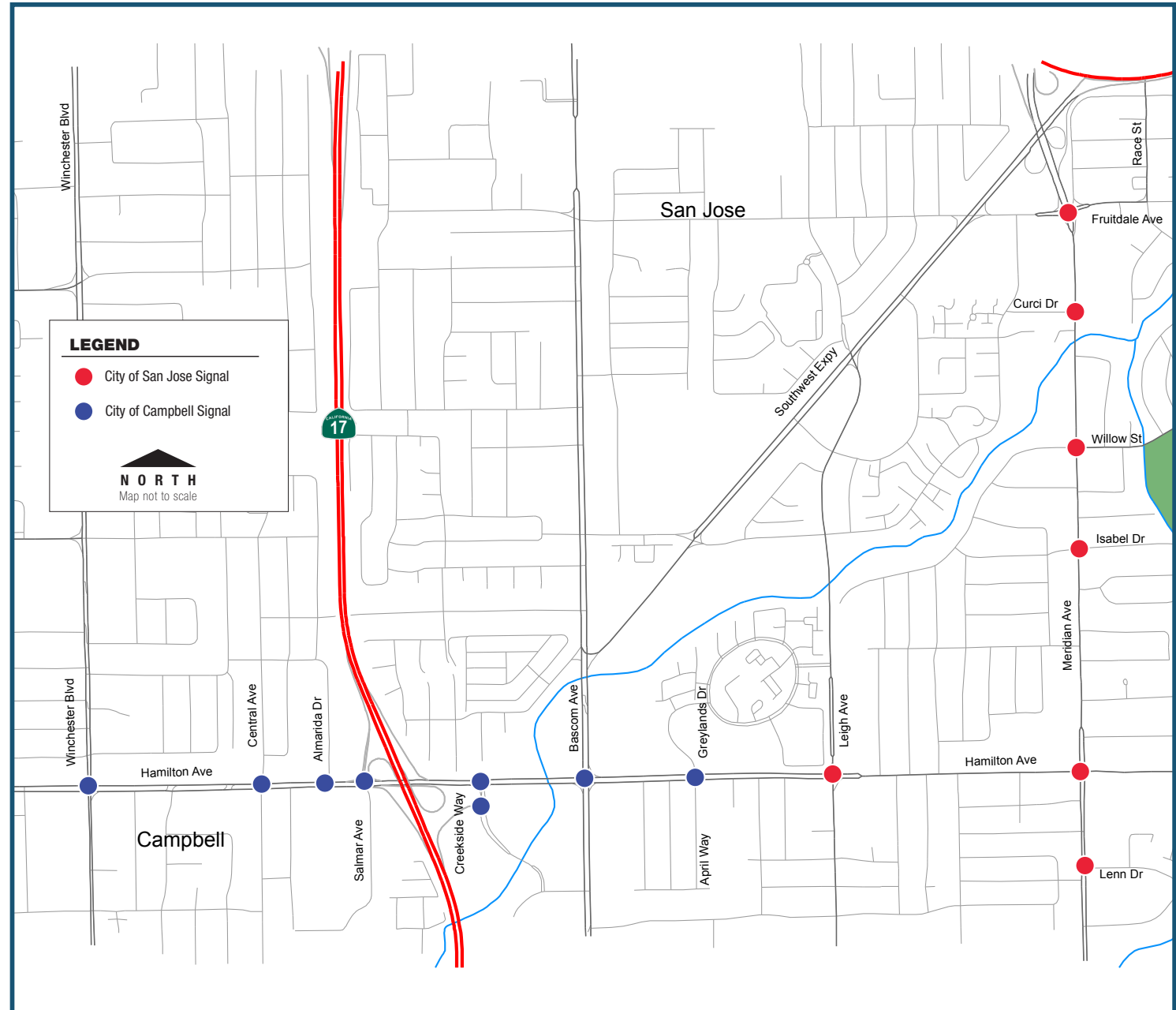
The City of Campbell, in conjunction with the City of San Jose, received a grant from the Metropolitan Transportation Commission's Program for Arterial System Synchronization (PASS) to deploy optimized signal timing plans for the 15 traffic signals on East Hamilton Avenue and Meridian Avenue. Eight of the project intersections are owned and operated by the City of Campbell, and seven of the project intersections are owned and operated by the City of San Jose.

All of the project intersections are connected to a central signal system and can have implementation of the timings completely remotely.

The goal of the project was to conduct a timing analysis and develop and implement signal coordination plans during the weekday AM, midday, and PM peak periods, as well as the weekend peak and off-peak periods.

The PASS project involved the completion of the following tasks: collect turning movement counts, including vehicular, pedestrian, and bicycle counts; conduct field review of the project area; conduct travel time surveys; review actuated settings; review collision history; develop the existing conditions model; develop coordination plans for the weekday AM, midday, and PM peak periods, as well

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PROJECT OVERVIEW (CONTINUED)

as the weekend peak and off-peak periods; implement and fine-tune the recommended timings; conduct the “before” and “after” travel time surveys; and document the analyses/ findings for the project.

After implementation of the timing plans, signal fine-tuning was conducted for all plans. Minor adjustments to the offsets and splits were made for each plan to achieve better performance of the signal timing based on observed conditions.

BENEFITS TO VARIOUS MODES



BENEFITS TO BICYCLISTS: The minimum green times were reviewed and increased at seven intersections to allow stopped bicyclists enough time to clear an intersection when the light turns green.



BENEFITS TO PEDESTRIANS: The pedestrian intervals were reviewed and increased at two intersections based on the 2012 California MUTCD to enhance safety.



BENEFITS TO TRAFFIC SAFETY: To enhance traffic safety, all timing parameters at each project intersection were reviewed. A review of intersection level collisions along the corridors was conducted to identify any collision patterns that may be corrected through signal timing adjustments.

Project Costs

Consultant Costs (Basic Services/ Plans)	\$37,500
Consultant Costs (Weekend Coordination)	\$33,000
Other Project Costs (GPS Clocks, Communications equipment, etc.)	\$0
Agency Staff Costs (Estimate)	\$9,375
Total Costs	\$79,875

Project Benefits

Measures	First Year		Lifetime (5 Years)	
	Savings	Monetized Savings	Savings	Monetized Savings
Travel Time Savings	89,773 hrs.	\$1,751,953	240,821 hrs.	\$4,699,714
Fuel Consumption Savings	239,189 gal.	\$923,069	641,637 gal.	\$2,476,185
ROG Emissions Reduction	0.76 tons	\$958	2.04 tons	\$2,569
NOx Emissions Reduction	0.52 tons	\$9,349	1.39 tons	\$25,079
PM2.5 Emissions Reduction	0.03 tons	\$8,418	0.07 tons	\$22,581
CO Emissions Reduction	6.99 tons	\$540	18.74 tons	\$1,449
Total Lifetime Benefits				\$7,227,576

Overall Project Benefits

Overall Project Benefits	Auto
Average Decrease in Travel Time	18%
Average Speed Increase	19%
Average Fuel Savings	11%
Average Reduction in Signal Delay	29%
Average Reduction in Number of Stops	27%
Overall Benefit-Cost Ratio	90:1

PROJECT BENEFITS SUMMARY



Average Reduction in Auto Signal Delay: 29%

Average Reduction in Number of Stops: 27%

Auto Fuel Consumption Savings: 11% or 641,637 gallons

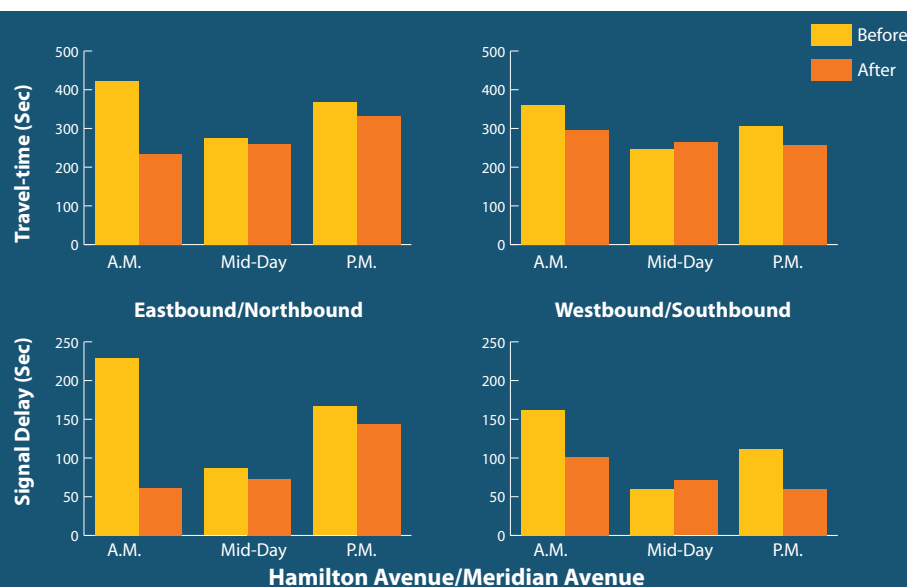


Total Emissions Reduced (ROG, NOx, PM2.5, CO): 22.24 tons

Auto Travel Time Savings: 18% or 240,821 hours



Overall Project Benefit-cost Ratio = 90:1



For more info, please contact:

Ganesh Karkee (MTC)

Arterial Operations Program Coordinator

Phone: 510.817.5625 • Email: GKarkee@mtc.ca.gov

Matthew Jue (Campbell)

Traffic Engineer | Phone: 408.866.2154

Email: matthewj@cityofcampbell.com

Project Consultant:

Kimley-Horn and Associates, Inc.

